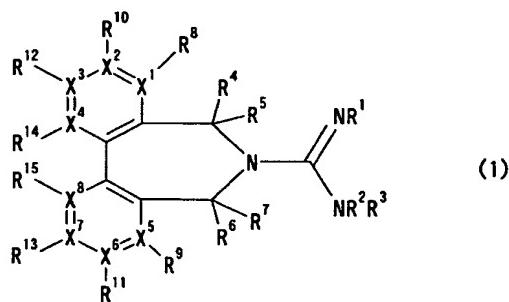


ABSTRACT

A guanidine compound having a biaryl skeleton represented by the following formula (1), which is useful as a catalyst for various asymmetric reactions.



(wherein R¹, R² and R³ each independently represent a hydrogen atom, a hydrocarbon group optionally having substituent(s), or a heterocyclic group optionally having substituent(s); R⁴ to R¹⁵ each independently represent a hydrogen atom, a hydrocarbon group optionally having substituent(s), a heterocyclic group optionally having substituent(s), a hydroxy group, an alkoxy group optionally having substituent(s), an aryloxy group optionally having substituent(s), an acyl group, an alkoxy carbonyl group optionally having substituent(s), an aryloxycarbonyl group optionally having substituent(s), a carbamoyl group optionally having substituent(s), an alkylthiocarbonyl group optionally having substituent(s), an arylthiocarbonyl group optionally having substituent(s), a carboxyl group, an alkylthio group optionally having substituent(s), an arylthio group optionally having substituent(s), an amino group or a substituted amino group, or a substituted silyl group; or in any combination of R¹ to R¹⁵, these substituents may be taken together to form a ring;

and x^1 to x^8 represent a hydrogen atom or a nitrogen atom,
provided that, in the case of a nitrogen atom, there is no
substituent on x^1 to x^8 .